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(54) Title: METHOD OF MANUFACTURE AND USE OF HYBRID ANION EXCHANGER FOR SELECTIVE REMOVAL OF CONTAMINATING LIGANDS FROM FLUIDS

(57) Abstract: Polymeric anion exchangers are used as host materials in which hydrated Fe (III) Oxides (HFO) are irreversibly dispersed within the exchanger beads. Since the anion exchangers have positively charged quaternary ammonium functional groups, anionic ligands such as arsenates, chromates, oxalates, phosphates, phthalates can permeate in and out of the gel phase and are not subjected to the Donnan exclusion effect. Consequently, anion exchanger supported HFO micro particles exhibit significantly greater capacity to remove arsenic and other ligands in comparison with cation exchanger supports. Loading of HFO particles is carried out by preliminary loading of the anion exchange resin with an oxidizing anion such as  $MnO_4^-$  or  $OCI^-$ , followed by passage of a Ferrous Sulfate solution through the resin.



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